

PROSPECTUS

2017/2018

INTAKE



FACULTY OF TECHNOLOGY
RAJARATA UNIVERSITY OF SRI LANKA
MIHINTALE

THE UNIVERSITY

The Rajarata University of Sri Lanka (RUSL) was established in November 1995 by the Gazette Notification No: 896/2 dated 7th November 1995 in Anuradhapura. At present the university comprises of six faculties, namely,

- ◆ Faculty of Agriculture
- ◆ Faculty of Applied Sciences
- ◆ Faculty of Management Studies
- ◆ Faculty of Medicine and Allied Sciences
- ◆ Faculty of Social Sciences and Humanities
- ◆ Faculty of Technology.

The Faculty of Technology (FOT) was the latest addition to the University and established on 30th June 2017 by the Gazette Notification 2037/15 dated 21/09/2017 in Mihintale.

ABOUT OUR FACULTY

The Technology Programme was inaugurated on January 2017, with an annual intake of 235 students. Currently, the Faculty consists of five departments, namely,

- ◆ Department of Bioprocess Technology
- ◆ Department of Food Technology
- ◆ Department of Electrical & Electronic Technology
- ◆ Department of Materials Technology
- ◆ Department of Information and Communication Technology.

The faculty offers five degree programmes under

- ◆ Biosystems Technology (BST),
- ◆ Engineering Technology (ENT) and
- ◆ Information and Communication Technology (ICT).

At present, the faculty enrolls 275 students annually and planning to expand it to 450 by year 2024.

OFFICERS OF THE UNIVERSITY

Vice-Chancellor:	Prof. G.A.S. Ginigaddara
Deans of Faculties:	
Agriculture:	Prof. A.M.J.B. Adikari
Applied Sciences:	Prof. E.M.R.K.B. Edirisinghe
Management Studies:	Prof. W.P. Wijewardhena
Medicine & Allied Sciences:	Prof. S.B. Agampodi
Social Sciences & Humanities:	Prof. D. T. Mendis
Registrar:	Mr. A.M.G.B. Abeysinghe
Librarian:	Mrs. A.S. Siriwardena
Bursar:	Mr. S. Upananda

STAFF OF THE FACULTY

ACADEMIC STAFF OF THE FACULTY

Dean: Prof. K.G.P.B. Jayathilaka

Heads of the Departments

Department of Bioprocess Technology:

Dr. T.C. Bamunuarachchige

Department of Electrical and Electronic Technology :

Dr. P. Kumarage

Department of Food Technology (Lecturer In-charge)::

Mrs. K.H.I. Gimhani

Department of Information Communication Technology (Lecturer In-charge):

Mr. H. Hikkaduwa

Department of Materials Technology:

Dr. H.A.N. Dharmagunawardhane

STAFF OF THE FACULTY

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Prof. Brad Day,

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Prof. David Kramer,

Michigan State University, USA

Prof. Tomonori Kawakami,

Toyama Prefectural University, Japan

Prof. Dr. Peter Heck,

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Prof. J.M.R.S. Bandara,

Faculty of Agriculture, University of Peradeniya (Retired)

Dr. Ingvar Albinsson,

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Assistant Professor, California State University, Northridge, USA

Prof. Kim Gi-Young

Professor, Jeju National University, Jeju, SK

LOCAL CONSULTANTS

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Dr. A.A.S. Perera, Department of Mathematics, UoP (Retired)

STAFF OF THE FACULTY

ADMINISTRATIVE STAFF OF THE FACULTY

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BIT (SLIIT)

Senior Assistant Librarian: Dr. S.K. Illangarathne
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DEGREE PROGRAMMES

1. **Bachelor of Biosystems Technology Honours [BBST (Hons)] in Bioprocess Technology**
2. **Bachelor of Biosystems Technology Honours [BBST(Hons)] in Food Technology**
3. **Bachelor of Engineering Technology Honours [BET (Hons)] in Electrical and Electronic Technology**
4. **Bachelor of Engineering Technology Honours [BET (Hons)] in Materials Technology**
5. **Bachelor of Information Communication Technology Honours [BICT (Hons)]**

Technology Degree Programme
Rajarata University of Sri Lanka

CREDIT RATING

Credit rating is an expression which is used to denote the “academic value” of a course.

According to the Sri Lanka Qualification Framework (SLQF), fifty notional learning hours for a taught course, laboratory studies course or field studies is equivalent to one credit. A norm of one hundred notional hours for Industrial Training and Research also have the same credit rating.

For courses with lectures only

15 hours of lectures = 1 credit

For courses with laboratory work only

30 – 45 hours of laboratory work = 1 credit

60 – 75 hours of laboratory work = 2 credit

For courses with both lectures and laboratory work only

10 hours of lectures + 10 or 15 hours of laboratory work = 1 credit

For courses with field work only

45 hours of field work = 1 credit

Industrial training

2 weeks of industrial training = 1 credit

Research project

1 – 2 weeks of research = 1 credit

DESCRIPTION OF COURSE CODES

Subject / Discipline	Code
Bioprocess Technology	BPT
Food Technology	FDT
Electrical and Electronic Technology	EET
Engineering Technology	ENT
Materials Technology	MTT
Information Communication Technology	ICT
Common for Technology	CMT
Complimentary	CML

Each course is assigned with a course code which consists of seven alphanumeric characters as follows:

First three letters:	Field of study / Subject
First digit:	Year of study within the Degree Programme
Second digit:	The credit rating
Last two-digits:	The serial number of the course

e.g. The course code BPT 1201 would mean:

BPT = Bioprocess Technology;
1 = 1st year;
2 = Credit rating of two;
01 = Serial number of the course

GRADING SYSTEM

For GPA Modules

Grade	Grade Point Value
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B -	2.7
C+	2.3
C	2.0
C -	1.7
D+	1.3
D	1.0
E	0.0

For Non-GPA Modules*

Grade	Note
S	Satisfactory
U	Unsatisfactory

Grade point average

Grade point average (GPA) is the credit-weighted arithmetic mean of the grade point values. The GPA is determined by dividing the total credit-weighted Grade Point Value by the total number of credits.

$$i.e. \text{ GPA} = \frac{\sum G_i C_i}{\sum C_i}$$

Where, G_i = grade point of the i^{th} course
 C_i = number of credits of the i^{th} course

*Students must obtain a grade of S to complete non GPA course modules.

DEGREE AWARDING CRITERIA

Bachelor of Biosystems Technology

To be eligible for the award of the Bachelor of Biosystems Technology Degree, a student must have completed

- a minimum of 120 credits,
- all the compulsory courses of the programme
- other minimum credit requirements shown below

Subject Category	Minimum Credit Requirement
Mathematics, Basic Sciences and Computing	20
Biosystems Technology Sciences	60
Complementary Subjects	15

Bachelor of Engineering Technology

To be eligible for the award of the Bachelor of Engineering Technology Degree, a student must have completed

- a minimum of 120 credits,
- all the compulsory courses of the programme
- other minimum credit requirements shown below

Subject Category	Minimum Credit Requirement
Mathematics, Basic Sciences and Computing	18
Technology Subjects	72
Complementary Subjects	18

DEGREE AWARDING CRITERIA

Bachelor of Information and Communication Technology

To be eligible for the award of the Bachelor of Biosystems Technology Degree, a student must have completed

- a minimum of 120 credits,
- all the compulsory courses of the programme
- other minimum credit requirements shown below

Subject Category	Minimum Credit Requirement
Mathematics	06
Management, Commerce, and Accounting	06
Professional Practice	06
English and Communication Skills	06
Industrial Training	05
Final Year Project	06

N.B. For all the programmes, courses specified as compulsory in the field of study are included in the 120 credits.

DEGREE AWARDING CRITERIA

Furthermore, a student should have

- a. a minimum GPA of 2.00,
- b. obtained grades of C or better for courses adding up to a minimum of 108 credits and at least grades of D in the remaining credits.
- c. complete the relevant requirements within a period of 8 academic years,
- d. obtained a minimum GPA of 2.00 at the end of the first three semesters to proceed to the fifth semester,
- e. obtained S (Satisfactory) grade for all the non GPA compulsory courses. (Credits of grade S shall not be considered for the final GPA computation, but shall be counted towards the minimum number of credits considered for the awarding of a degree),
- f. fulfilled other requirements specified for each degree programme by the relevant department.

N.B. The maximum number of repeated attempts of a course shall be two (02)

A student who obtains any grade less than C has the option to repeat the relevant course and upgrade to a maximum of C.

Courses with grades of E or U (Unsatisfactory) should not appear within the minimum number of credits (120) required.

AWARDING OF CLASSES

A student who has fulfilled the above Degree Awarding Criteria shall be awarded classes if he/she fulfils the following additional requirements:

First Class

- i. Minimum GPA of 3.70
- ii. Complete the degree programme within four academic years
- iii. Obtain grades of C or better in the first attempt aggregating to at least 120 credits

Second Class (Upper Division)

- i. GPA of 3.30 - 3.69
- ii. Complete the degree programme within four academic years

Second Class (Lower Division)

- i. GPA of 3.00 - 3.29
- ii. Complete the degree programme within four academic years

Biosystems Technology Degree Programme

Biosystems Technology offers an integrative degree program focusing on teaching and research in two overarching research areas. Namely,

- 1) Bioprocess Technology
- 2) Food Technology

The programmes are designed to comprise a hands-on approach, where students are expected to be equipped with the knowledge, skills and attitude to cater to the industry needs of the country as well as embark on successful careers.

Prospective students would have to qualify by following the GCE (A/L) technology stream under Biosystems Technology and following the selection criteria specified by the University Grant Commission Handbook for the relevant intake.

Selection Procedure

The selections of students to these two areas are based on their preferences and performances following the completion of the first two semesters. In the event, where the applying number of students for a certain programme exceed 40 the GPA of compulsory courses would be strictly taken into account.

Students will be selected to respective degree programmes based on their preference and performance of the compulsory courses excluding complementary courses at the end of the first two semesters.

1) Bioprocess Technology

The objective of the Bioprocess Technology programme is to transform research into innovative manufacturing processes and commercial products. This programme offers courses in the fields of Bioprocess technology, Molecular Biology, Microbiology, Immunology, Pharmacology and Bioinformatics. With this unparalleled knowledge and experience, we envision to produce highly qualified graduates, who would contribute to the advancement of research and development in the field of Bioprocess Technology.

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Bioprocess Technology Modules

Year	Semester	Course code	Title	Credits	Status
1	1	CMT 1301	Fundamentals of Physics for Technology	3	C
		CMT 1302	Fundamentals of Chemistry for Technology	3	C
		CMT 1303	Fundamentals of Mathematics for technology	3	C
		CMT 1304	Fundamentals of Computer for Technology	3	C
		CMT 1005	Communication Skills I (English)	0	C
		CMT 1306	Fundamentals of Biology for Technology	3	C
		CML 1201	Personality Development	2	C
		CML 1202	Presentation Skills	2	C
		1 - 1 Total			C-19
	2	BPT 1201	General Microbiology	2	C
		BPT 1202	Cell Biology	2	C
		CMT 1307	Mathematics for Technology I	3	C
		CMT 1208	Computer Programming for Technology	2	C
		CMT 1009	Communication Skills II	0	C
		FDT 1201	Organic Chemistry	2	C
		CML 1203	Principles of Management	2	C
		CML 1204	Health and Wellbeing	2	C
		1 - 2 Total			C-15

Year	Semester	Course code	Title	Credits	Status	
2	1	BPT 2201	Quality Management	2	C	
		BPT 2202	Introduction to Bioprocess Technology	2	C	
		BPT 2203	Genetics and Evolution	2	O	
		BPT 2204	Plant Tissue Culture	2	C	
		BPT 2205	Molecular Biology	2	C	
		FDT 2202	Basic Biochemistry	2	C	
		CMT 2301	Fundamentals of Statistics for Technology	3	C	
		CMT 2002	Communication Skills III	0	C	
		CMT 2306	Mathematics for Technology II	3	O	
		CML 2201	Social Sciences and Humanities	2	O	
		CML 2202	Engineering Economics	2	O	
		CML 2206	Indigenous Technology	2	O	
		2 - 1 Total				C-13
					O-11	
	2	2	BPT 2206	Bioreactor Operation and Design	2	C
			BPT 2207	Basic Immunology	2	C
			BPT 2108	Quality Assurance and Safety of Bioprocessed Products	1	C
			BPT 2209	Molecular Biotechnology	2	C
			FDT 2305	Analytical Chemistry	3	C
			CMT 2203	Computational Mathematics	2	O
			CML 2204	Foreign Language	2	O
			CML 2205	Ethics in Science and Technology	2	C
			CML 2208	Introduction to Marketing	2	O
2 - 2 Total				C-12		
				O-6		

Year	Semester	Course code	Title	Credits	Status
3	1	BPT 3201	Molecular Microbiology	2	C
		BPT 3302	Bioinformatics	3	C
		BPT 3203	Bioprocess Instrumentation and Control	2	C
		BPT 3304	Molecular Modeling	3	C
		BPT 3205	Bioprocess Optimization and Simulation	2	C
		BPT 3206	Molecular Immunology and Current Applications	2	C
		BPT 3207	Enzyme Technology	2	C
		BPT 3208	Industrial Microbiology	2	C
		CML 3101	Legal and Patent Aspects	1	C
		3 - 1 Total			C-19
	2	BPT 3108	Seminar	1	C
		BPT 3209	Scientific Writing	2	C
		BPT 3610	Internship	6	C
		CML 3102	Industrial Safety	1	C
3 - 2 Total			C-10		
4	1	BPT 4301	Drug Designing	3	C
		BPT 4302	Downstream Process Technology	3	C
		BPT 4303	Bioremediation and Waste Management	3	C
		BPT 4204	Molecular Virology	2	C
		BPT 4205	Plant Cell Culture	2	C
		BPT 4206	Pharmaceutical Biotechnology	2	C
		BPT 4207	Bioproduct Development	2	C
		CML 4201	Entrepreneurship	2	C
		CML 4202	Human Resource Management	2	O
	4 - 1 Total			C-19	O-2
	2	BPT 4808	Bioprocess Technology Project	8	C
4 - 2 Total			C-8		

*BPT: courses offered by Bio Process Technology, CMT: common courses for all Technology programs, CML: complementary courses, EET: courses offered by Electrical and Electronic Technology program, ENT: common courses for all Engineering Technology programs, FDT: Food Technology, C: Compulsory,

B) Food Technology

The Bachelor of Biosystems Technology in Food Technology degree program has been designed with the objective of producing graduates with a sound theoretical and practical knowledge in food technology along with professionalism, ethics and critical thinking for the new millennium. The Department of Food Technology offers a unique academic package which provides the essential knowledge required to work in the field of food technology. The curriculum of the food technology degree programme encompasses the subjects primarily focusing on food processing and product development, food engineering and physics, food analysis and food chemistry, food microbiology and biotechnology, food nutrition, sensory evaluation and food safety and quality. Additionally, the undergraduates are exposed to a carefully tailored internship programme and to the research activities during their degree programme to give them a real-world industrial exposure and to gain the experiences on technological implementations by applying the theory concepts into practices and research which finally, shape their capabilities to be employed in both local and international contexts.

Academic Staff

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Food Technology Modules

Year	Semester	Course code	Subject	Credits	Status
1	1	CMT 1301	Fundamentals of Physics for Technology	3	C
		CMT 1302	Fundamentals of Chemistry for Technology	3	C
		CMT 1303	Fundamentals of Mathematics for Technology	3	C
		CMT 1304	Fundamentals of Computer for Technology	3	C
		CMT 1306	Fundamentals of Biology for Technology	3	C
		CMT 1005	Communication Skills I (English)	0	C
		CML 1201	Personality Development (Soft Skills)	2	C
		CML 1202	Presentation Skills	2	C
		1 - 1 Total			C-19
	2	BPT 1201	General Microbiology	2	C
		BPT 1202	Cell Biology	2	C
		FDT 1201	Organic Chemistry	2	C
		CMT 1307	Mathematics for Technology I	3	C
		CMT 1208	Computer Programming for Technology	2	C
		CMT 1009	Communication Skills II	0	C
		CML 1203	Principles of Management	2	C
		CML 1204	Health and Wellbeing	2	C
		1 - 2 Total			C-15

Year	Semester	Course code	Subject	Credits	Status
2	1	FDT 2201	Physical Chemistry	2	C
		FDT 2202	Basic Biochemistry	2	C
		FDT 2203	Introduction to Food Industry	2	C
		FDT 2204	Food Preservation	2	C
		CMT 2301	Fundamental of Statistics for Technology	3	C
		CMT 2306	Mathematics for Technology II	3	O
		CMT 2002	Communication Skills III	0	C
		CML 2201	Social Sciences and Humanities	2	C
		CML 2206	Indigenous Technology	2	O
		2 - 1 Total			C-13
	2	FDT 2305	Analytical Chemistry	3	C
		FDT 2206	Food Physics	2	C
		FDT 2207	Food Chemistry	2	C
		FDT 2208	Food Microbiology	2	C
		FDT 2209	Introduction to Human Nutrition	2	C
		FDT 2210	Food Biotechnology	2	C
		CMT 2203	Computational Mathematics	2	C
		CML 2204	Foreign Language	2	O
		CML 2205	Ethics in Science and Technology	2	C
		2 - 2 Total			C-17

Year	Semester	Course code	Subject	Credits	Status	
3	1	FDT 3201	Fruits & Vegetables Processing Technology	2	C	
		FDT 3202	Food Engineering	2	C	
		FDT 3203	Food Analysis	2	C	
		FDT 3204	Meat and Fish Processing Technology	2	C	
		FDT 3205	Functional Food and Food Toxicology	2	C	
		FDT 3206	Dairy Product Technology	2	C	
		FDT 3207	Confectionary and Beverage Technology	2	O	
		FDT 3108	Current Topics in Food Industry	1	C	
		FDT 3209	Cereals and Pulses Processing Technology	2	C	
		CML 3101	Legal and Patent Aspects	1	C	
		BPT 3207	Enzyme Technology	2	O	
			3 - 1 Total		C-16 O-4	
	2	FDT 3212	Spices and Oil Processing Technology	2	O	
		FDT 3614	Industrial Training	6	C	
		FDT 3215	Food Packaging Technology	2	C	
CML 3102		Industrial Safety	1	C		
			3 - 2 Total		C-9 O-2	

Year	Semester	Course code	Subject	Credits	Status	
4	1	FDT 4302	Food Product Development	3	C	
		FDT 4203	Water Science and Technology	2	O	
		FDT 4206	Supply Chain Analysis	2	C	
		FDT 4107	Scientific Writing	1	C	
		FDT 4208	Cleaner Production	2	O	
		FDT 4209	Sensory Evaluation	2	C	
		CML 4201	Entrepreneurship	2	C	
		CML 4202	Human Resource Management	2	O	
	4 - 1 Total			C-10	O-6	
	2	FDT 4801	Research Project	8	C	
		FDT 4204	Quality Assurance, Safety and Standards in Food Industry	2	C	
		FDT 4205	Food Marketing	2	C	
		FDT 4207	Nanotechnology	2	O	
		4 - 2 Total			C-12	O-2

*BPT: courses offered by Bio Process Technology, CMT: common courses for all Technology programs, CML: complementary courses, EET: courses offered by Electrical and Electronic Technology program, ENT: common courses for all Engineering Technology programs, FDT: Food Technology, C: Compulsory, O: Optional

Engineering Technology Degree Programme

Engineering Technology degree program at Rajarata University of Sri Lanka offers Bachelor of Engineering Technology (BET) degree. This is a four year professional degree programme designed under the guidelines of Sydney Accord. Students who wish to follow this degree programme should pass the Science for Technology and Engineering Technology subjects at G.C.E. A/L examination. The main objective of this degree programme is to produce high quality skilled graduates who can directly fulfill the requirement in the local and international job market.

Selection Procedure

Students, who enter the Engineering Technology degree programme will be following common subjects in their first two semesters. Upon completion of the first two semesters they can apply for specialization. Selection will be solely based on their preference and the performances in the first two semesters.

In the event, where the applying number of students for a certain programme exceed 50 the GPA of compulsory courses would be strictly taken into account.

To be eligible for the selection procedure students should obtain at least C passes for all the compulsory modules at the first two semesters.

Students will be selected to respective degree programmes based on their preference and performance of the compulsory courses excluding complementary courses at the end of the first two semesters.

A) Electrical & Electronics Technology

This degree program provides a solid foundation on both theoretical and practical aspects of the Electrical & Electronic Technology and prepares students for the diverse and dynamic careers in the local and international job market. While covering all the fundamental areas of Electrical & Electronics through core course modules students also have the opportunity to learn and have hands on experience on latest technologies and trends through technical electives. For the benefit of the students to target an occupation and select courses accordingly, the department has identified four major divisions in the curriculum of Electrical and Electronic Technology.

- Electrical and Power Technology
- Electronic Technology
- Telecommunication Technology
- Automation Technology

To gain proficiency in one of the areas, students have to enroll for a minimum number of courses offered under the respective category as specified by the department.

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Electrical and Electronic Technology Course Modules

Year	Semester	Course code	Subject	Credits	Status
1	1	CMT 1301	Fundamentals of Physics for Technology	3	C
		CMT 1302	Fundamentals of Chemistry for Technology	3	C
		CMT 1303	Fundamentals of Mathematics for Technology	3	C
		CMT 1304	Fundamentals of Computer for Technology	3	C
		CML 1201	Personality Development (Soft Skills)	2	C
		CML 1202	Presentation Skills	2	C
		CMT 1005	Communication Skills I (English)	0	C
		1 - 1 Total			C-16
	2	ENT 1301	Introduction to Basic Electronics	3	C
		ENT 1302	Fundamentals of Electricity and Magnetism	3	C
		CMT 1307	Mathematics for Technology I	3	C
		CMT 1208	Computer Programming for Technology	2	C
		ENT 1204	Workshop Technology I	2	C
		CML 1203	Principles of Management	2	C
		CML 1204	Health and Wellbeing	2	C
		CMT 1009	Communication Skills II	0	C
		ENT 1203	Engineering Drawing	2	O
		1 - 2 Total			C-17 O-2

Year	Semester	Course code	Subject	Credits	Status
2	1	EET 2301	Digital & Analog Electronics	3	C
		EET 2202	Electricity Network	2	C
		EET 2208	Introduction to Electrical Power	2	C
		MTT 2204	Computer Aided Design (CAD)	2	O
		ICT 2304	Object Oriented Programming	3	O
		ICT 2202	Operating Systems	2	O
		ICT 2303	Data Structures and Algorithms	3	O
		CMT 2306	Mathematics for Technology II	3	C
		CMT 2301	Fundamentals of Statistics for Technology	3	C
		CMT 2002	Communication Skills III	0	C
		CML 2202	Engineering Economics	2	C
		CML 2201	Social Sciences and Humanity	2	C
		CML 2206	Indigenous Technology	2	O
		2 - 1 Total			C-17
	2 - 1 Total			O-12	
	2	EET 2203	Electronic Devices and Circuits	2	C
		EET 2204	Electrical Measurements and Instrumentation	2	C
		EET 2305	Electrical Machines	3	C
		EET 2206	Signals and Systems	2	C

Year	Semester	Course code	Subject	Credits	Status	
		CMT 2203	Computational Mathematics	2	C	
		CML 2204	Foreign Language	2	O	
		CML 2205	Ethics in Science and Technology	2	C	
		CML 2208	Introduction to Marketing	2	O	
		EET 2207	Computer Aided Machine Design	2	O	
		ICT 2213	Data Communication and Networking	2	O	
		2 - 2 Total			C-13	O-08
3	1	EET 3301	Electrical Power Systems	3	C	
		EET 3202	Communication Systems	2	C	
		EET 3203	Computer Systems	2	C	
		EET 3304	Digital Signal Processing	3	C	
		EET 3305	Control Systems	3	C	
		CML 3101	Legal and Patent Aspects	1	C	
		EET 3206	Automation Technology I	2	O	
		EET 3209	Automobile Electrical Systems	2	O	
		EET 3210	Electrical Installations	2	O	
		EET 3211	Machine Element Design	2	O	
		ICT 3217	Advanced Computer Networking	2	O	
	3 - 1 Total			C-14	O-10	
	2	EET 3607	Industrial Training	6	C	
		CML 3102	Industrial Safety	1	C	
3 - 2 Total			C-07			

Year	Semester	Course code	Subject	Credits	Status
4	1	EET 4301	Electronic Circuit Design and Simulations	3	C
		EET 4303	Electrical Energy Utilization	3	O
		EET 4304	Power Electronics	3	C
		EET 4818	Undergraduate Project	4	C
		EET 4202	Embedded System Design	2	O
		EET 4305	Digital Communication	3	O
		EET 4206	Automation Technology II	2	O
		EET 4207	Telecommunication Systems	2	O
		EET 4208	Fiber Optics Techniques	2	O
		EET 4216	Energy and Environment	2	O
		CML 4201	Entrepreneurship	2	O
		CML 4202	Human Resources Management	2	O
		4 - 1 Total			C-10
				O-20	
	2	EET 4818	Undergraduate Project	4	C
		EET 4210	Electronic Product Design	2	C
		EET 4217	Electrical Machines and	2	O
		EET 4209	High Voltage Engineering	2	O
		EET 4311	Internet Technology and Appli-	3	O
		EET 4312	Power System Analysis	3	O
		EET 4213	Antenna and Propagation	2	O
		EET 4214	Wireless Communication	2	O
		EET 4215	Mechatronics	2	O
		EET 4219	Green Energy and Zero Emis- sion Concepts	2	O
EET 4220		Graphical Programming and Data Acquisition	2	O	
4 - 2 Total			C-06		
			O-16		

B) Materials Technology

Materials Technology degree programme offers a syllabus comprising processing, manufacturing and fabrication of materials and opens doors to employment in a range of industries. The applications and implementations related to metals, ceramics, glass, polymers and their versatile outcome composites will be extensively studied. The programme is equipped with modern and advanced material testing apparatus and also with a Pilot Plant (mini factory) for ceramic-based industrial applications. The technological and business skills gained from the course modules along with the industrial training will equip students with their first step towards the fulfilling industry requirements.

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Materials Technology Modules

Year	Semester	Course code	Subject	Credits	Status
1	1	CMT 1301	Fundamentals of Physics for Technology	3	C
		CMT 1302	Fundamentals of Chemistry for Technology	3	C
		CMT 1303	Fundamentals of Mathematics for Technology	3	C
		CMT 1304	Fundamentals of Computer for Technology	3	C
		CML 1201	Personality Development	2	C
		CML 1202	Presentation Skills	2	C
		CMT 1005	Communication Skills I (English)	0	C
		1 - 1 Total			C-16
	2	ENT 1301	Introduction to Basic Electronics	3	C
		ENT 1302	Fundamentals of Electricity and Magnetism	3	C
		CMT 1307	Mathematics for Technology I	3	C
		CMT 1208	Computer Programming for Technology	2	C
		ENT 1204	Workshop Technology I	2	C
		CML 1203	Principles of Management	2	C
		CML 1204	Health and Wellbeing	2	C
		CMT 1009	Communication Skills II	0	C
		ENT 1203	Engineering Drawing	2	O
		1 - 2 Total			C-17 O-2

Year	Semester	Course code	Subject	Credits	Status	
2	1	MTT 2201	Fundamentals of Solid State Physics	2	C	
		MTT 2202	Chemistry for Materials Technology	2	C	
		MTT 2203	Introduction to Ceramic Technology	2	C	
		MTT 2204	Computer Aided Design (CAD)	2	C	
		CMT 2306	Mathematics for Technology II	3	C	
		CMT 2301	Fundamentals of Statistics for Technology	3	C	
		CML 2201	Social Sciences and Humanities	2	C	
		CML 2206	Indigenous Technology	2	O	
		CML 2202	Engineering Economics	2	C	
		CMT 2002	Communication Skills III	0	C	
		ICT 2304	Object Oriented Programming	3	O	
		MTT 2206	Graphical Programming	2	O	
		2 - 1 Total			C-18	
	2 - 1 Total			O-07		
	2	2	MTT 2210	Mechanical Behavior of Materials	2	C
			MTT 2311	Ceramic Technology I	3	C
			MTT 2205	Introduction to Metallurgy	2	C
			MTT 2207	Measurements, Error Analysis and Instrumentation	2	C
			MTT 2108	Chemical Engineering Sciences	1	C
			MTT 2209	Introduction to Polymer Technology	2	C
			MTT 2112	Introduction to Thermodynamics	1	C
			CMT 2203	Computational Mathematics	2	C
			CML 2204	Foreign Language	2	O
CML 2208			Introduction to Marketing	2	O	
CML 2205			Ethics in Science and Technology	2	O	
ICT 2206			Multimedia and Web Technology	2	O	
2 - 2 Total			C-15			
2 - 2 Total			O-08			

Year	Semester	Course code	Subject	Credits	Status
3	1	MTT 3308	Polymer Technology I	3	C
		MTT 3307	Metallurgy I	3	C
		MTT 3306	Ceramic Technology II	3	C
		MTT 3202	Degradation of Materials	2	C
		MTT 3103	Ceramic Pilot Plant Practices	1	O
		MTT 3204	Workshop Technology II	2	C
		MTT 3212	Non Destructive Testing of Materials	2	C
		MTT 3111	Thermodynamics for Materials Technology	1	C
		CML 3101	Legal and Patent aspects	1	O
		3 - 1 Total			C-16
	2	CML 3102	Industrial Safety	1	C
		MTT 3609	Industrial Training	6	C
		3 - 2 Total			C-07
	4	1	MTT 4201	Fluid Mechanics	2
MTT 4121			Research Methodology and Scientific Writing	1	C
MTT 4303			Ceramic Technology III	3	O ⁺
MTT 4219			Applied Mechanics	2	C
MTT 4104			Glass Technology	1	O
MTT 4305			Polymer Technology II	3	O ⁺
MTT 4106			Mineral Processing	1	O
MTT 4307			Metallurgy II	3	O ⁺
MTT 4820			Research Project (Continue in 4-2)		C
MTT 4108			Directed Reading	1	O
MTT 4109			Seminar	1	O
MTT 4210			Work Shadowing	2	O
CML 4201			Entrepreneurship	2	C
CML4202			Human Resource Management	2	O
4 - 1 Total			C-07	O-14	

Year	Semester	Course code	Subject	Credits	Status
4	2	MTT 4820	Research Project	8	C
		MTT 4311	Advanced Materials	3	O
		MTT 4312	Advanced Instrumental Techniques and Characterization of Materials	3	O
		MTT 4213	Manufacturing Systems	2	O
		MTT 4114	Quality Management	1	C
		MTT 4215	Cleaner Production	2	C
		MTT 4216	Industrial Metrology	2	O
		MTT 4217	Composite Materials	2	O
		MTT 4218	Paint Technology	2	O
		4 - 2 Total			
				O-14	

***CMT:** Common Courses for all Technology Programs, **CML:** Complementary Courses, **EET:** Courses offered by Electrical and Electronic Technology Program, **ENT:** Common Courses for all Engineering Technology Programs, **ICT:** Courses offered by Information and Communication Technology Program, **MTT:** Courses offered by Materials Technology Program, **C:** Compulsory, **O:** Optional

Information and Communication Technology

The Information and Communication Technology degree program at Rajarata University of Sri Lanka offers a 4-year degree program leading to Bachelor of Information and Communication Technology (BICT). This program is designed under the guidelines of Institute of Computer Society of Sri Lanka (CSSL). Students who wish to follow this degree program should pass the Science for Technology and Information and Communication Technology subjects at the G.C.E. A/L examination.

The main objective of this degree program is to produce high quality skilled graduates who can directly fulfill the requirements in both the local and international IT industries.

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Information and Communication Technology Modules

Year	Semester	Course code	Subject	Credits	Status
1	1	ICT 1101	Productivity Tools	1	C
		ICT 1202	Electronic circuits	2	C
		ICT 1305	Program Designing and Programming	3	C
		CMT 1301	Fundamentals of Physics for Technology	3	C
		CMT 1303	Fundamentals of Mathematics for Technology	3	C
		CML 1301	Personality Development	3	C
		CMT 1005	Communication Skills I	0	C-NGP
		1 - 1 Total			C -15
	2	ICT 1110	Introduction to Multimedia	1	C
		ICT 1108	Skill Development Project I	1	C
		ICT 1209	Web Technologies	2	C
		ICT 1207	Human Computer Interaction	2	C
		ENT 1302	Fundamentals of Electricity and Magnetism	3	O
		CML 1203	Principles of Management	2	C
		CML 1204	Health and Wellbeing	2	C
		CMT 1009	Communication Skills II	0	C-NGP
		CMT 1307	Mathematics For Technology 1	3	C
		1 - 2 Total			C-13

Year	Semester	Course code	Subject	Credits	Status
2	1	ICT 2101	Advanced applications	1	C
		ICT 2202	Operating Systems	2	C
		ICT 2303	Data Structures and Algorithms	3	C
		ICT 2304	Object Oriented Programming	3	C
		ICT 2207	Software System Design	2	C
		ICT 2212	Skill Development Project II	2	C
		CML 2202	Engineering Economics	2	C
		CMT 2002	Communication Skills III	0	C-NGP
		EET 2207	Mathematics for Technology II	2	O
		2 - 1 Total			C -15
	2	ICT 2305	Computational Mathematics	3	C
		ICT 2314	Introduction to the Information Systems	3	C
		ICT 2211	Fundamentals of Statistics	2	C
		ICT 2213	Data Communication and Networking	2	C
		ICT 2308	Database Systems	3	C
		ICT 2109	Communication and Learning Skills	1	C
		CML 2204	Foreign Language	2	C
		CML 2205	Ethics for Science and Technology	2	C
		2 - 2 Total			C-18

Year	Semester	Course code	Subject	Credits	Status	
3	1	ICT 3201	Project Management	2	C	
		ICT 3217	Advance Computer Networks	2	O	
		ICT 3203	Scientific Computer Applications	2	C	
		CML 3101	Legal and Patent aspects	1	C	
		ICT 3312	Software Verification and Validation	3	C	
		ICT 3206	Skills Development Project III	2	C	
		ICT 3307	Computational Statistics	3	O	
		ICT 3314	Embedded Systems	3	C	
		ICT 3208	Design and Analysis of Algorithms	2	C	
		3 - 1 Total			C-15	O - 5
	2	ICT 3209	Computer Organization and Architecture	2	C	
		ICT 3310	Information Security	3	C	
		ICT 3311	Robotics	3	O	
		ICT 3315	Internet of Things	3	O	
		ICT 3213	Advanced SW System Design	2	C	
		ICT 3216	Research Methodology	2	C	
		ICT 3204	E-Commerce	2	C	
		CML 3203	Basics of Accountancy	2	C	
		3 - 2 Total			C -13	O -6

Year	Semester	Course code	Subject	Credits	Status
4	1	ICT 4301	Mobile Computing	3	C
		ICT 4302	Internet Applications	3	C
		ICT 4103	Software Engineering	1	C
		ICT 4204	Graphics and Image Processing	2	O
		ICT 4205	Current Topics in Information Technology	2	C
		ICT 4306	Data Science	3	O
		ICT 4207	Artificial Intelligence	2	O
		CML 4201	Entrepreneurship	2	C
		CML 4202	Human Resource Management	2	O
		4 - 1 Total			C - 11
	2	ICT 4808	Project	8	C
		ICT 4609	Industrial Training	6	C
		4 - 2 Total			C - 14

***CMT:** common courses for all Technology programs, **CML:** complementary courses, **ENT:** common courses for all Engineering Technology programs, **ICT:** courses offered by Information and Communication Technology program, **C:** Compulsory, **O:** Optional